



High Performance  
10 Base-T 5-port  
Ethernet Hub

## **HX-5** *User's Guide*



### Section 1 - Introduction

The MaxTech HX-5 is a 5-port ethernet hub compliant with the IEEE 802.3 10Base-T standard. The five RJ-45 ports connect workstations or other devices together on a 10Base-T network using unshielded twisted-pair cable. An additional crossover port connects this hub to a second hub using standard UTP cable for easy network expansion. A full set of LED indicators assist in network troubleshooting.

The package contains the following items:

- Hub
- User's Guide
- Power adapter
- Mounting plate and screws

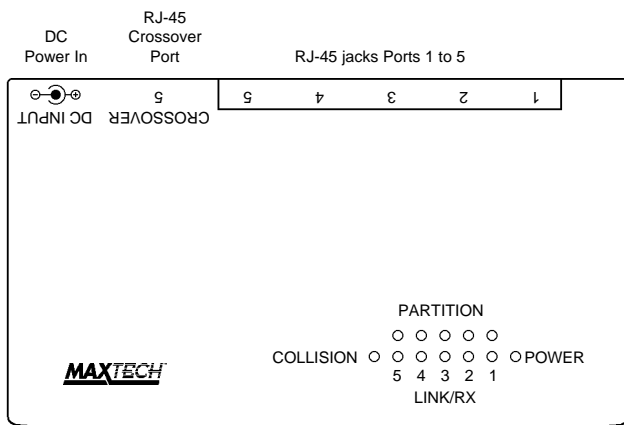
### Section 2 - Installation

1. **Locating the Hub** - Place the hub in a location central to your networked computers, or within the maximum cable length (328 ft.) to the farthest computer. It can be placed on a desk or it can be mounted on a wall by using the included mounting plate and screws.
2. **Connecting the Power Adapter** - Insert the round end of the power adapter cord into the hub's **DC Input** connector (See Figure 1). Plug the transformer end of the power adapter into a 120V power outlet. The hub is powered on when this connection is made.

**Note:** The hub performs a self-test when it is first powered on. The power and link LEDs (except port 1) will light. The link LEDs will go off, leaving only the power LED on.

3. **Connecting Workstations** - Connect one end of an unshielded twisted-pair cable into the network connection of a computer. Connect the other end of

Figure 1 - HUB Connectors

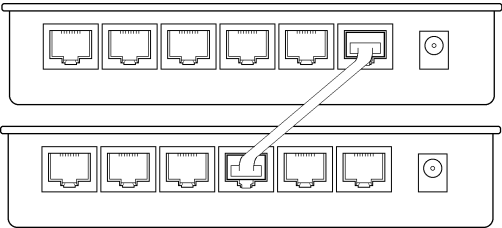


the cable into an open port (1 through 5 except the crossover port) on the hub (See Figure 1). The length of the cable must be less than 328 feet (100 meters). A proper network connection between the hub and an **active** workstation is indicated by a steady green LINK LED for that port.

### 2.1 Connecting Hub to Hub

The network can be expanded beyond five workstations by daisy-chaining two or more hubs together. The hub's fifth port features an additional cross-over connection to facilitate daisy-chaining hubs using standard UTP cable. Plug one end of a standard UTP cable into the cross-over port and the other end into a regular port (1 through 5) of a second hub (see Figure 2). A maximum of 4 hubs can be connected together by daisy-chaining.

Figure 2 - Connecting Hubs



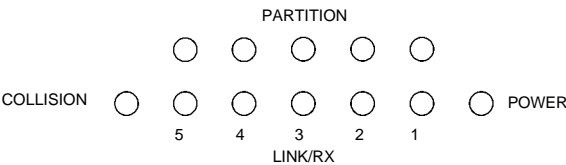
**Note:** The cross-over port **is** port number 5 with a reversed pin-out. The cross-over port and port 5 cannot be used simultaneously.

## Section 3 - LED indicators

12 LEDs (see Figure 3) show the status of the hub and its network connections.

LED	Function
POWER	<b>On</b> - Hub is powered on. <b>Off</b> - Hub is powered off.
LINK/RX (1 through 5)	<b>On</b> - A network link is established. <b>Blink</b> - Data is being received.
PARTITION (1 through 5)	<b>On</b> - The port has been disconnected from the network due to excessive collisions caused by the attached computer
COLLISION	<b>Blink</b> - Two workstations have attempted to send data at the same time.

Figure 3 - HUB LEDs



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## Appendix A - Specifications

Network Standard:	IEEE 802.3 Ethernet 10Base-T
Transfer rate:	10 Mbps
Topology:	Star
Max. cable length:	328 ft. (100 meters)
Ports:	5 RJ-45 jacks
Crossover connector:	1 (port 5)
Auto-partition:	Yes
Polarity correction:	Yes
Dimensions:	5.1" x 3.4" x 1.1"
Weight:	6 oz.
EMI/RFI:	FCC Part 15 Class A
Temperature:	0° C to 45° C (operating); -40° C to 70° C (storage)
Humidity:	10% to 80% (operating, non-condensing); 5% to 90% (storage)
Power:	7W, 120VAC

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## Appendix B - 10 Base-T Cable Requirements

10Base-T networks use unshielded twisted-pair cable and 8-pin RJ-45 modular connectors. Use 22-26 AWG, 2- or 4-pair, 100 ohm/ft UTP Category 3 or better cable. The cable must use solid copper conductors and UL codes CM, CMR, and CMP are required. Maximum cable length from hub to workstation is 328' (100 m).

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## Appendix C - Technical Support

In the unlikely event you experience difficulty in the use of the product, or if it does not operate as described, we suggest you: (1) check the Link status LED, (2) check for the proper cable type (category 3), (3) check that the port has not been disabled by the hub due to excessive collisions or (4) consult with your dealer.

If you still cannot resolve the problem, call the MaxTech Service Center at (562) 921-4438 between 9:00 a.m. and 6:00 p.m. (PST Monday through Friday). ***If the nature of your question is related to the network operating system that you are using, refer to its manual.*** Calling the Service Center without complete and accurate information concerning the **nature of the problem** will be both time-consuming and frustrating for you.

You may also reach us through:

**24 hour BBS** - (562) 921-7180  
**Compuserve ID** - 71333,44  
**Prodigy** - *Jump*: Manufacturers BB  
**Email** - support@maxcorp.com

**24 hour Faxback** - (562) 921-9540  
**America Online** - *Keyword*: Maxtech  
**World Wide Web** - www.maxcorp.com  
**FTP** - ftp.maxcorp.com

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## Appendix D - Five Year Limited Warranty

MaxTech warrants to the original buyer of this product against defects in material and workmanship for five years from the date of purchase. During the warranty period, MaxTech will repair (or at its option, replace) the product that proves to be defective, provided the product has not been abused, misused, modified, or re-

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paired by an unauthorized center.

In the event the product requires service, follow the procedure outlined in **Technical Support**. When you are instructed by the Technical Support Representative to return the product to MaxTech for repair, you will be given an RMA (Return Merchandise Authorization) number. You **must have an RMA Number to return the product for service**. Use the following procedure to return the product to MaxTech:

1. Return the product in its original package and packing (if possible), and put it in a sturdy corrugated box.
2. Be sure to include your name, address, day-time telephone number, RMA number, and a brief description of the problem (also enclose a check for out-of-warranty repair). Enclose your check or Postal Money Order for \$7.50 to cover the cost of return shipping/handling. Please do not send cash or stamps.
4. After wrapping the package securely for shipping, print your name, return address and the RMA # **clearly** on the outside of your package.
5. Ship the unit prepaid via UPS or the U.S. Postal Service to the address provided by the technician when you call. We recommend that the unit be insured.

This warranty is valid for products sold in North America only. Contact your local authorized distributor or dealer for the warranty offered in other areas.

All warranty services must be performed by Authorized Service Centers. There are no user serviceable parts inside the unit. Do not remove any components or attempt to service the unit by any unauthorized service center. This warranty is voided if the product has been abused, misused, modified, or repaired by an unauthorized service center.

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## Appendix E - Notices

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### FCC Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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### Disclaimer, Copyright, And Other Notices

The information contained in this manual has been validated at the time of this manual's production. The manufacturer reserves the right to make any changes and improvements in the product described in this manual at any time and without notice. Consequently the manufacturer assumes no liability for damages incurred directly or indirectly from errors, omissions or discrepancies between the product and the manual.

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